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EXAMINER

BAKER, S

ART UNIT

PAPER NUMBER

2784

3

DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/314,578

Applicant(s)

Morris et al.

Examiner

Stephen Baker

Group Art Unit

2784



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-47 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9 and 11-47 is/are rejected.

☒ Claim(s) 10 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the serial number on line 1 of page 66 is missing. Appropriate correction is required.

Drawings

2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "wired communications terminal" must be shown or the feature canceled from the claims. No new matter should be entered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 8, 11, 12, 21-24, 28, 29 and 39 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, line 2, "BLER" apparently should read as "BER".

In claims 11 and 12, "no error correction algorithm" is described inconsistently as an error correction algorithm.

In claim 21, line 3, "another" apparently should read as "the other".

In claims 22 and 23, line 1, "another" apparently should read as "other".

In claim 24, line 3, "using said" apparently should read as "using one of said".

In claim 28, line 4, "another" apparently should read as "the other".

In claim 29, line 4, "another" apparently should read as "other".

In claim 39, line 4, "multi-time frame" apparently should read as "multi-frame".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-9 and 11-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,699,365 to Klayman et al. ("Klayman").

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Regarding claim 1: Klayman discloses "a method of selecting an error correction algorithm in a communications system". Although Klayman notes (e.g. col. 3, lines 28-39, col. 9, lines 36-39) that upstream and downstream channels may be TDM channels, Klayman does not specifically describe the channels in terms of multiple time-slotted frames. Official notice is taken that multiple time-slotted frames for TDM channels were well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to implement Klayman's TDM by multiple time-slotted frames. Such an implementation would have been obvious because multiple time-slotted frames for TDM channels were well known.

A step of "determining an error rate level of a communication channel based on a plurality of bearer packets when received during said multi-frame" is provided by the time-slotted implementation of Klayman's TDM, as Klayman teaches (e.g. col. 8, lines 55-57) utilizing an average value of an error rate, which would involve monitoring a plurality of TDM frames, i.e. a "multi-frame". A step of "selecting an error correction algorithm from a plurality of error correction algorithms taking into account said error rate level" is also provided by Klayman (e.g. Fig. 4, steps 330, 340, 350, 360).

Regarding claims 30, 31, 36, and 41: Klayman teaches using a "computer program" to implement the error rate monitoring and FEC control (e.g. col. 9, lines 40-55).

Regarding claims 13-16, 20, 25, 28, 40, and 45-47: wired and wireless media are taught by Klayman (col. 3, line 8). Klayman's primary station (101) is a "central station" and each of

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Klayman's secondary stations (110) is "remote station". Both types of station may be "FEC dynamic", to permit dynamic FEC coding on upstream and downstream channels. (col. 9, lines 42-55).

Regarding claims 2 and 3: user data is "traffic data" that varies inversely with error correction coding "overhead" (col. 6, lines 19-34).

Regarding claim 4, 18, 26, 33 and 37: although Klayman teaches monitoring packet or block error rate (col. 7, line 50) of data encoded by Reed-Solomon (RS) forward error correction block codes and CRC error detection block codes (e.g. col. 4, lines 25-26 and 32-33), Klayman does not describe detecting errored packets after correction. Official notice is taken that using a combination of RS and CRC codes to detect errored packets after correction was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to implement Klayman's RS + CRC decoding to detect errored packets after correction. Such an implementation would have been obvious because using a combination of RS and CRC codes to detect errored packets after correction was well known.

Regarding claims 5 and 6: an acceptable range for Klayman's monitored error rate has a minimum and maximum level defined by allowable tolerances (col. 7, line 60 to col. 8, line 24):

Regarding claims 7, 8, 19, 27, 34, 38 and 44: Klayman teaches BER as an alternative to BLER (col. 7, line 49).

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Regarding claims 9, 32, 39, 42 and 43: as any time in a TDM embodiment of Klayman's system has a frame associated with it, and as a "multi-frame", defined above to correspond to the number of time frames over which an average error rate is monitored in Klayman's system to generate a value for deciding an adjustment in FEC coding, may be extended in definition to include a time frame during which the FEC adjustment decision is completed, Klayman's FEC adjustment deciding process may be considered to occur in "the last time frame of said multi-frame".

Regarding claims 11 and 12: a "no error correction" mode is taught by Klayman (col. 12, lines 18-23).

Regarding claim 17: Klayman's RS coding would involve an "appending ... with said error correction data".

Regarding claims 21 and 24: transmitting "a signal ... indicating said error correction algorithm selection" in performed in Klayman's system (e.g. Fig. 4, step 370).

Regarding claim 22: Klayman's central station would "approve" or "deny" any message based on whether it is decodable.

Regarding claim 23: Klayman's transmissions include a "signal".

Regarding claim 29: Klayman does not specify a response for "confirming" Klayman's FEC revision message (step 370). Official notice is taken that channel reliability improvement by message "confirming", i.e message acknowledgment, was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the

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invention was made, to implement Klayman's FEC revision message transmission protocol to include revision message acknowledgment. Such an implementation would have been obvious because channel reliability improvement by message acknowledgment was well known.

Regarding claim 35: Klayman does not specify placing the station operating program on a ROM chip. Official notice is taken that the convenience advantage of placing an operating program on a ROM chip was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to implement Klayman's program instructions on a ROM chip. Such an implementation would have been obvious because the convenience advantage of placing an operating program on a ROM chip was well known.

Allowable Subject Matter

8. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Baker, whose telephone number is (703) 305-9681. The examiner can normally be reached on Mon.-Fri. from 9:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady, can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are: (703) 305-3718 for informal papers only, and (703) 308-9051 or (703) 308-9052 for formal papers.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

SMB

July 25, 2000



**STEPHEN M. BAKER
PRIMARY EXAMINER**